

FIG. 1

	LIM 1	
P	WEGRPQELGGKEIPL	CAGCDQHILDRFILKALDRHWHSKCLKCSDCHTFLAER
M	MLLEAELDCHRRPGAPGASALCTFSRTP	M-----V-----
C	MLLE*****RVRAGSEKAELCPFRSP	-----N-----V-----Q-Q-----K
X	MLLE*****RVRTGTQKSSDMCGYT-SP	-----N-----V-----N-QTQ-----K
Z	MLLE*****HPGSSCCQNAGNYTRYSSQD-V	-----N-----V-----QSQ-----DK
	LIM2	
P	CFSRGESLYCKDD	FEKRFGTKCAACQLGIPPTQVRRQAQDFVYHLHCFACVVKRQLATGDEFYLMEDSRL
M	-----V-----	-----
C	DGV-----E-----	-----Q-----I-----
X	D-V-----Q-----	-----E-----I-----
Z	D-V-----Q-----	-----I-----
	HOMEODOMAIN	
P	VCKADYETAKQREAEATAKRPRTTITAKQLET	TKSAYNTSPKPARHVREQLSSETGLDMRVVQVWFQNRRA
M	-----S-----	-----N-----
C	-----S-----	-----N-----
X	-----S-----	-----N-----
Z	-----S-----	-----T-----
P	KEKRLKKDAGRQRWGQYFRNMKRRGSGSKSDKDSVQEEGQDSDAEVSTDEP	SMAEMGPANGLYGGLGEPA
M	-----S-----	-----I-----D-----SS-----
C	-----S-----	-----I-----P-----S-----SHS-----I-SN-S-AS
X	-----S-----	-----I-----P-----S-----NHS-----I-NS-NDSS
Z	-----S-----	-----T-----D-M-----SDL-HS-----I-SS-S-SS
P	PALGRPSGAPGSFPLEHGG*LAGPEQYGE	LRPSSPYGVPSPPAALQSLPGPQPLLSSLVYPEAGLGLV*PA
M	-----V-GL-----T-D-----*-----T-----	-----I-P-----P-----DTN-S-----*-----S
C	-----QA-TN-----S-D-S-----*IP-QD-----HD-----SN-----	-----I-Q-----S-----A-----H-----DS-----IM*GQ
X	-----V-----QA-SN-----P-S-----*IPTQD-----HN-----SN-----	-----I-Q-----S-----M-----H-S-----N-AF-DT-----IIGQ*
Z	-----QG-NHPA-----AIIPSQ-P-HDIQA-----	-----SL-Q-----GP-----P-RH-----S-----PMAGQS
P	GPFGGPPPMRVL*AGNGPSSDLSTGSSGGYPDFFPASPASWLDEVDHAQF	
M	-----*-----	-----E-----S-----
C	-----GQ-V-QS-----*-----	-----
X	-----GGQ-VA-T-----I*GV-----	-----V-----T-----
Z	-----GQDMT-GV-----MMA-----	-----

2 / 52

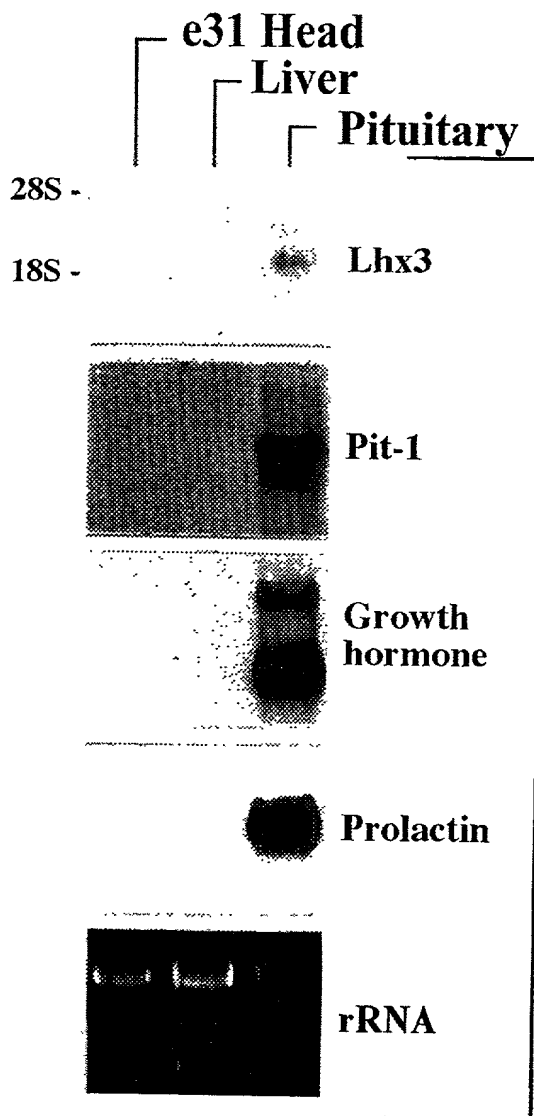


FIG. 2

3 / 52

FIG. 3Ai

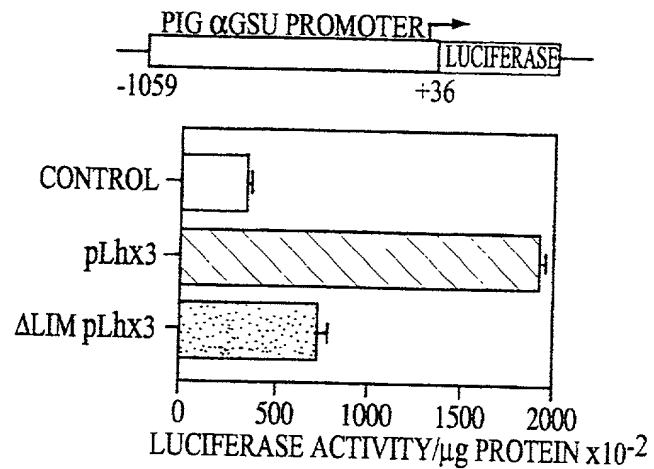


FIG. 3Aii

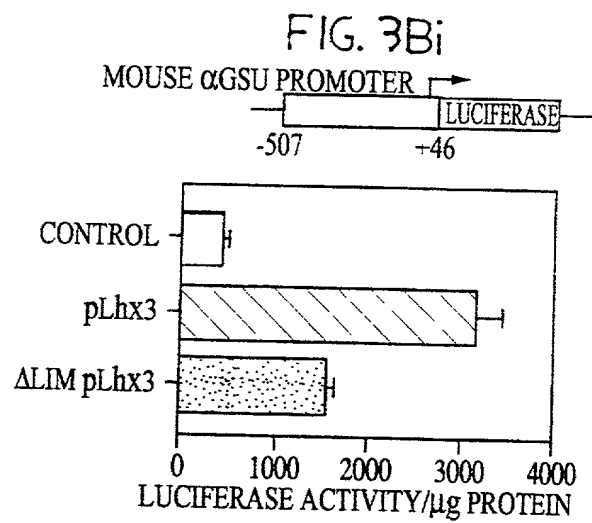


FIG. 3Bii

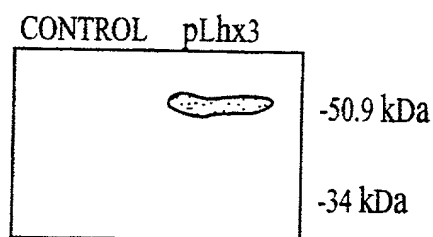


FIG. 3C

FIG. 4A

WITΔ-LSG
GST-pLh_{x3}

- 69 kDa

- 46 kDa

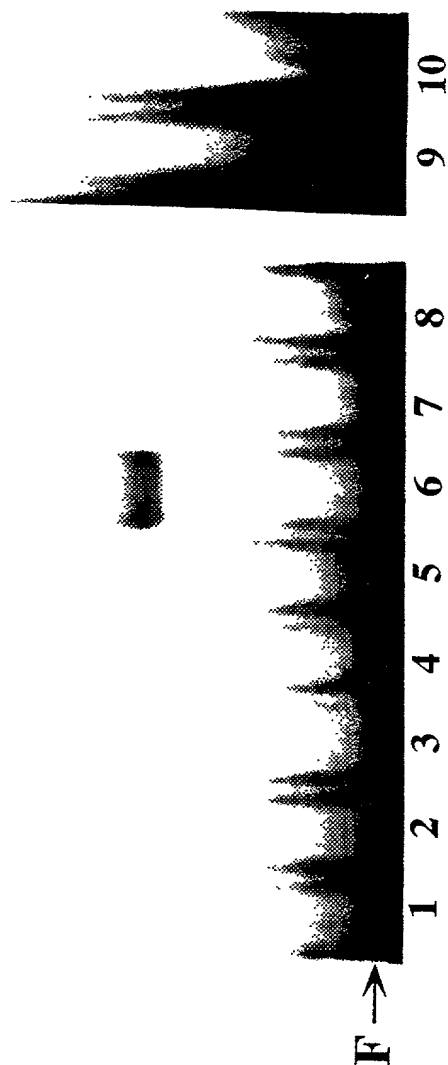
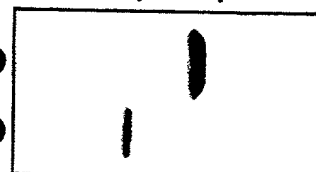


FIG. 5A

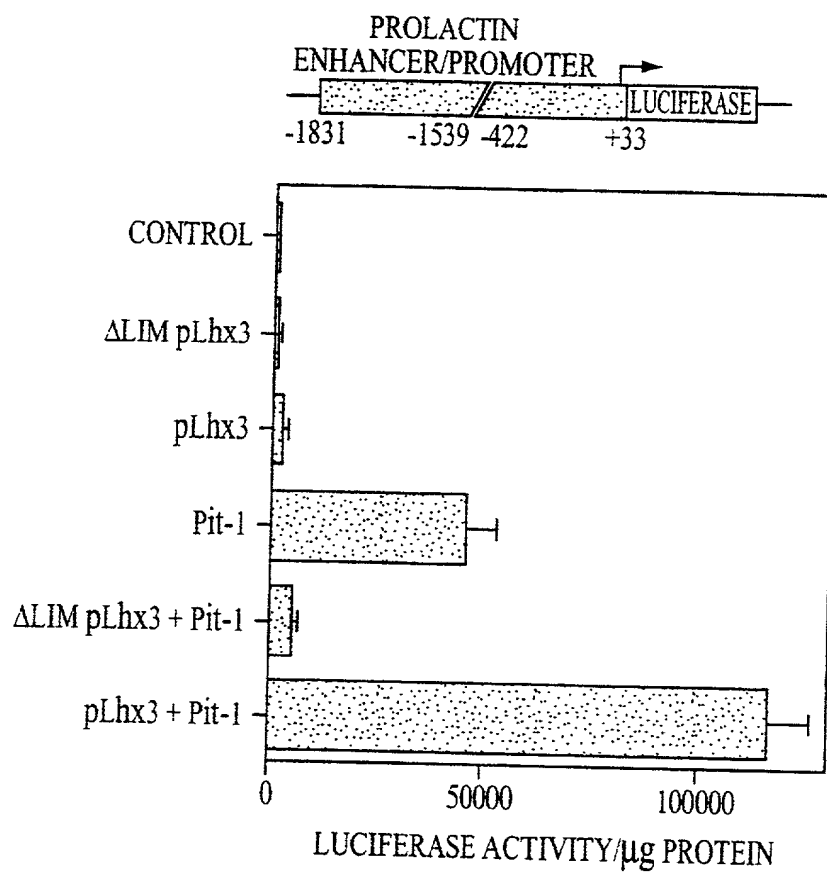


FIG. 5B

6/52

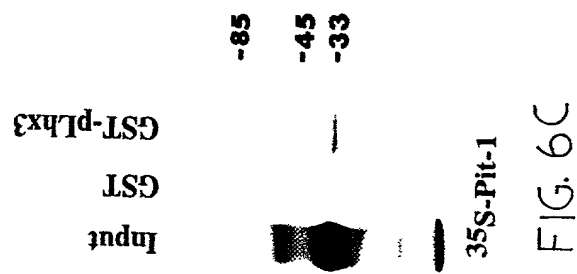


FIG. 6C

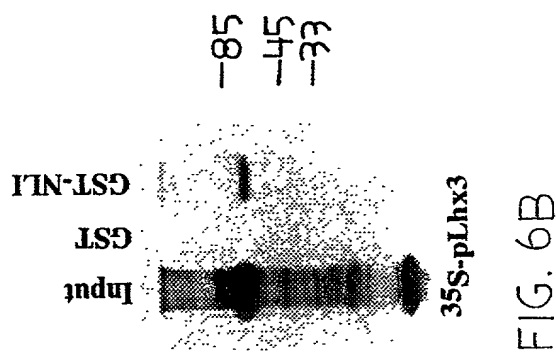


FIG. 6B

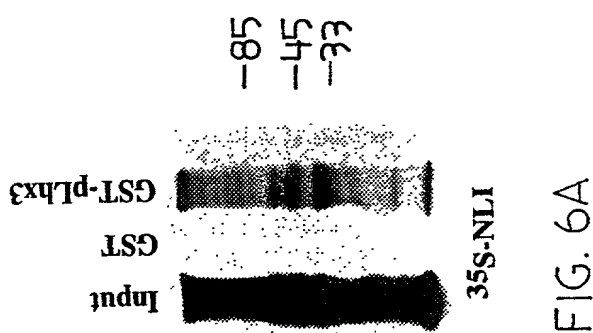


FIG. 6A

FIG. 7A

```

1 ctgggagggg cggccacagg agctgggagg aaaagagatc cactgtgtg ccggctgcga
61 ccagcacatc ctggaccgct tcacctcaa ggctctggac cgccactggc acagcaagtg
121 cctcaagtgc agtgactgcc acacgccgct ggccgagcgc tgcttcagcc gcggagagag
181 cctctactgc aaggacgact tcttcaagcg cttcgggacc aagtgcgccg cgtgccagct
241 gggcatcccg cccaogcagg tggcgccg cgccaggac ttcgtgtacc acctgcactg
301 cttcgccctg gtcgtgtgca agcggcagct ggccacgggc gacgagttct acctcatgga
361 ggacagccgg ctcgtgtgca aggccgacta cgagaccgcc aagcagcgag aggccgagggc
421 cacggccaag cggccgcgca cgaccatcac ggccaagcag ctggagacgc tgaagagcgc
481 ctacaacacg tcgcccagg ccgcgcgcca cgtgcgcgag cagctctcct ccgagaccgg
541 cctggacatg cgcgtcgtgc aggtgtggtt ccagaaccgc cgggccaaagg aaaagcggct
601 caagaaggac gccggccggc agcgtgggg ccagtaactt cgtaacatga agcgcgcccg
661 cggtggctcc aagtcggaca aggacagcgt ccaggaggag gggcaggaca gtgacgccga
721 ggtctccttc acagacgagc catccatggc cgaaatgggc cctgccaaacg gcctctacgg
781 cggcctgggg gagcctgccc ctgccttggg ccggccctcg ggggccccgg gcagctccc
841 gctggagcac ggaggcctgg cgggccccga gcagtatgga gagctgcgcc ccagcagccc
901 ctacggtgtc ccctcgtcgc ccgcgccct gcagagcctc cctggcccc agccccct
961 ctccagcttg gtgtaccggg aggtggctt ggggcttgtg ccgcggggc cccaggtgg
1021 gccccacccc atgaggtgc tggcaggga cggacccagc tccgacctat ccacggggag

```

FIG. 7B

1081 cagtggggc tacccgact tccctgccag tccgcctcc tggctggacg aggtggatca
1141 cgctcagttc tgactgaggc ccagctccg tggagcacca gacacgagca ctgcccctgg
1201 ctgggtggtc gggagccgag ctctccttc ccgaagccct gggcctctaa aggacacagg
1261 gtcacccggc gggcacaggc tgaggactgt ccagcccgcc ggccctggcc ccgggcagag
1321 ggactttctc ccggtctcga ggctccttct gggacaaagg gagccacctg gtggctgctc
1381 agcaagcctt gttttgtaag cagattcctc cctttatcaa ccaaaattaa ctgagtgctt
1441 gctgctcttt ctagaccgga gtggtcagcc ccgaaagccg gggagggggg ctctcccag
1501 ccagagcag cacagccctc agactggaag atgctttaat ttttaaaatt aaaaaaat
1561 acgaactgtg cttccatttc ccagcttcct ctgtctagtt ctgcc

FIG. 8

WEGRPQELGGKEIPLCAGCDQHILDRFILKALDRHWHSKCLKSDCHTPLAERCFS
RGESLYCKDDFFKRFGTKCAACQLGIPPTQVVRRRAQDFVYHLHCFACVVCKRQLAT
GDEFYLMEDSRLVCKADYETAKQREAEATAKRPRTTITAKQLETLKSAYNTSPKPA
RHVREQLSSETGLDMRVVQVWFQNRRAKEKRLKKDAGRQWQYFRNMKRARGGSK
SDKDSVQEEGQSDAEVSFTDEPSPMAEMGPANGLYGGLGEPAPALGRPSGAPGSP
LEHGGLAGPEQYGELRPSSPYGVPSPPAALQSLPGPQLLSSLVYPEAGLGLVPAG
PPGGPPPMRVLAGNGPSSDLSTGSSGGYPDFPASPASWLDEV DHAQF

10/52

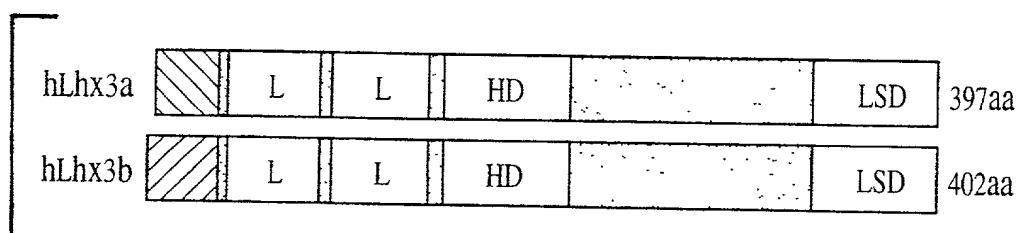


Fig. 9A

11/52

FIG. 9B

Ha	1	MLLETGLERDRARPGA--A-AVCTLGGTR	26
Ma	1	...AE.DCH.E...PG.S.L..FSR.P	29
Hb	1	MEARGELGPARESAGGDDLLALLARRADLRR	31
Mb	1	.....D.S.....	31
LIM Domain 1			
H	32	EIPLCAGCDQHILDRFILKALDRHWHSKCLKSCDDCHTPLAERCFSRGESVYCKDD	FFFKRFGTK
P	12	.....M.....	L.....
M	32	.....V.....	.....
LIM Domain 2			
H	94	CAACQLGIPPTQVVRRAQDFVYHLHCFACVVCKRQLATGDEFYLMEDSRLVCKADYETAKQREAEA	
P	74	.....	.....
M	94	.....	.....
Homeodomain			
H	160	TAKRPRTTITAKQLETLKSAYNTSPKPARHVREQLSSETGLDMRVVQVWFQNRRAKEKRLKKG	DAG
P	140	.....	.....
M	160	.....	.....
Lhx3/LIM3-specific domain			
H	225	RQRWGQYFRNMKRSRGGSKSDKDSVQ-EGQDSDAEVSFDPDEPSLAEMGPANGLYGSGLGEPTQALGR	
P	205	.....A.....E.....T.....M.....G.....AP.....	
M	225	.....S.....I.....T.....M.D.....S.....AP.....	
H	290	PSGALGNFSLHGLAGPEQYRELPGSPYGVPPSPAAPQSLPGPQPLLSSLVYPDTSLGLVPSGA	
P	271	...P.S.P.....G...S...S...L.....EAG.....A.P	
M	290	.V.G..S.T.D...T.....I.....N.S.....P	
Lhx3/LIM3-specific domain			
H	356	PGGPPPMRVLAGNGPSSDLSTGSSGGYPDFPASPASWLDEV	DHAQF* 402
P	337	.....	* 383
M	356	.....E.S.....	* 402

12/52

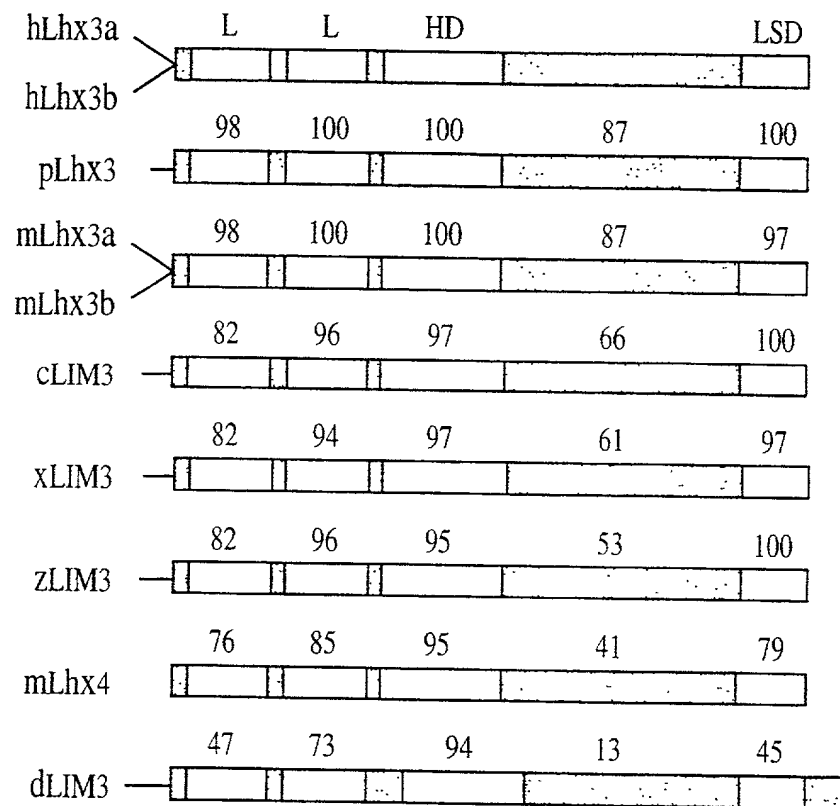


Fig. 9C

FIG. 10A

```

-104 ggcacgagcc ccgcacgacg cggcgggact tgggagcccc gaaccctcca
-54 ggggacgtg acctcggagg agcgcgtctc gcgccaactcg gcctggtggc
-4 cgcgATGCTG CTGGAACGG GGCTCGAGCG CGACCGAGCG AGGCCCGGGG
47 CCGCCGCCGT CTGCACCTTG GCGGGGACTC GG
79 GAGATCCCCG TGTGCGCTGG CTGTGACCAG CACATCCTGG ACCGCTTCAT
129 CCTCAAGGCT CTGGACCGCC ACTGGCACAG CAAGTGTCTC AAGTGCAGCG
179 ACTGCCACAC GCCACTGGCC GAGCGCTGCT TCAGCCGAGG GGAGAGCGTT
229 TACTGCAAGG ACGACTTTT CAAGCGCTTC GGGACCAAGT GCGCCCGCGTG
279 CCAGCTGGGC ATCCCGCCCA CGCAGGTGGT GCGCCGCGCC CAGGACTTCG
329 TGTACCACCT GCACTGCTTT GCCTGCGTCG TGTGCAAGCG GCAGCTGGCC
379 ACGGGCGACG AGTTCTACCT CATGGAGGAC AGCCGGCTCG TGTGCAAGGC
429 GGACTACGAA ACCGCCAAGC AGCGAGAGGC CGAGGCCACG GCCAAGCGGC
479 CCGGCACGAC CATCACCGCC AAGCAGCTGG AGACGCTGAA GAGCGCTTAC
529 AACACCTCGC CCAAGCCGGC GCGCCACGTG CGCGAGCAGC TCTCGTCCGA
579 GACGGGCTTG GACATGCGCG TGGTGCAGGT TTGGTTCCAG AACCGCCGGG
629 CCAAGGAGAA GAGGCTGAAG AAGGACGCCG GCCGGCAGCG CTGGGGGCAG
679 TATTTCGGCA ACATGAACCG CTCCCGCGGC GGCTCCAAGT CGGACAAGGA
729 CAGCGTTCAG GAGGGGCAGG ACAGCGACGC TGAGGTCTCC TTCCCCGATG

```

FIG. 10B

779 AGCCTTCCTT GCGGAAATG GGCCCGGCCA ATGGCCTCTA CGGAGCTTG
829 GGGGAACCA CCCAGGCTT GGGCCGGCCC TCGGAGCCCC TGGGCAACTT
879 CTCCTGGAG CATGAGGCC TGGCAGGCC AGAGCAGTAC CGAGAGCTGC
929 GTCCCGGAG CCCCTACGGT GTCCCCCAT CCCCCCGCC CCGCAGAGC
979 CTCCTGGCC CCCAGCCCC CTCTCCAGC CTGGTGTACC CAGACACCAG
1029 CTGGGCCCTT GTGCCCTCGG GAGCCCCCG CGGGCCCCCA CCCATGAGGG
1079 TGCTGGCAGG GAACGGACCC AGTTCTGACC TATCCACGGG GAGCAGCGGG
1129 GGTACCCCG ACTTCCCTGC CAGCCCCGCC TCCTGGCTGG ATGAGGTAGA
1179 CCACGCTCAG TTCTGAccca ggcccggtc caccctgcac ctcacacgag
1229 ggagctgcc ctgggtggc ggtcggggc tgcctgggtt tccgaggaag
1279 tggggccagg gcgtcaagg agggctggtg ccttcggagc ctcccactgc
1329 cgaccgcaca gctccctctc tgggggctga gggacccacc tggccctcc
1379 tctgacacag ggctggccc ccagtggtg tccagcaag ccagcctttt
1429 ttgtaagcaa atttctccc tttattgacc aattaactga gcacttgctg
1479 ctatttctag acatgaaatg tcaccttgct gaggccagc ccagccagc
1529 atagcccag ggctggaaa acgctttcat ctctaaaact gagaaatcat
1579 cataattgtg ctttcacttc ccaggctcca tgtgtcttgg agccgtcacc
1629 ccgaggctcc ctctttaggt cggagattgg ccttgccctgt cgaggcaaga

FIG. 10C

1679 ggctgcagag gcggggacac acctgtgtcc tctcaccac accccaggcc
1729 cttggtgtcc aggtgcacc cacagatgtc tgttgccaaa cagcctgccc
1779 tccctgccgg agccggctct gccagcccca gattgggaag tctcccgcct
1829 ggagaagggt ggggctcctc tgagcctgcc ctgcctcctc catcagatcc
1879 tttgggaaga agtttctggg agatgcccgc agctgtgcgt gcccagaca
1929 caaaggctgg cctgtgtgta agtcaaagtc actcccgcaa acctgaatct
1979 cgagctacct attggttctg tgaatgttct gtgtcttcta tttattctcg
2029 ggtgatcagc tctttccaag ctcgtgcc

FIG. 11A

-119 cgcagcgcc agcagcacc gccagtgcctt ggacgccggt tcggggctat
-69 tgcggggtgg cgtcgtggg cccgggaaag ttcgggactg gagagtggcg
-19 acgccgggcg gcgggaccca TGGAGGCGCG CGGGAGCTG GGCCCGGCC
32 GGGAGTCGGC GGGAGGCGAC CTGCTGCTAG CACTGCTGGC GCGGAGGGCA
82 GACCTGCGCC GA
94 GAGATCCCGC TGTGCGCTGG CTGTGACCAG CACATCCTGG ACCGCTTCAT
144 CCTCAAGGCT CTGGACCGCC ACTGGCACAG CAAGTGTCTC AAGTGCAGCG
194 ACTGCCACAC GCCACTGGCC GAGCGCTGCT TCAGCCGAGG GGAGAGCGTT

FIG. 11B

244 TACTGCAAGGACGACTTTT CAAGCGCTTC GGGACCAAGT GCGCCGCGTG
 294 CCAGCTGGGCATCCCGCCCA CGCAGGTGGT GCGCCGCGCC CAGGACTTCG
 344 TGTACCACTGCACTGCTTT GCCTGCGTCT TGTGCAAGCG GCAGCTGGCC
 394 ACGGGCGACGAGTTCTACCT CATGGAGGAC AGCCGGCTCG TGTGCAAGGC
 444 GGACTACGAAACCGCCAAGC AGCAGAGAGC CGAGGCCACG GCCAAGCGGC
 494 CGCGCACGACCATCACCGCC AAGCAGCTGG AGACGCTGAA GAGCGCTTAC
 544 AACACCTCGC CCAAGCCGGC GCGCCACGTG CGCGAGCAGC TCTCGTCCGA
 594 GACGGGCTG GACATGCGCG TGGTGCAGGT TTGGTTCCAG AACCGCCGGG
 644 CCAAGGAGAA GAGGCTGAAG AAGGACGCCG GCCGGCAGCG CTGGGGGCAG
 694 TATTTCCGCAACATGAAGCG CTCCTCGCGG GGTCCAAGT CGGACAAAGGA
 744 CAGCGTTCAG GAGGGCAGG ACAGCGACGC TGAGGTCTCC TTCCCCGATG
 794 AGCCTTCCTT GCGGAAATG GCCCCGGCCA ATGGCCTCTA CGGGAGCTTG
 844 GGGGAACCCA CCCAGGCCCTT GGGCCGGCCC TCGGGAGCCC TGGGCAACTT
 894 CTCCCTGGAG CATGGAGGCC TGGCAGGCC AGAGCAGTAC CGAGAGCTGC
 944 GTCCCGGCAG CCCCTACGGT GTCCCCCCAT CCCCCGCCG CCGCAGAGC
 994 CTCCCTGGCC CCCAGCCCCT CCTCTCCAGC CTGGTGTACC CAGACACCAG
 1044 CT'TGGGCCTT GTGCCCTCGG GAGCCCCCGG CCGGCCCCCA CCCATGAGGG
 1094 TGCTGGCAGG GAACGGACCC AGT'TCTGACC TATCCACGGG GAGCAGCGGG

FIG. 11C

1144 GGTACCCCG ACTTCCCTGC CAGCCCCGCC TCCTGGCTGG ATGAGTAGA
1194 CCACGCTCAG TTCTGAccca ggcccggctc caccctgcac ctcacacgag
1244 ggagctgccc ctgggtgggc ggctcggggc tgctggggtt tccgaggaag
1294 tggggccagg gcgtcaaggg agggctgggt ccttcggagc ctcccactgc
1344 cgaccgcaca gctccctctc tgggggctga gggaccacc tggcccctcc
1394 tctgacacag ggctggcccg ccaggctggc tccagcaag ccagcctttt
1444 ttgtaagcaa atttctcccc ttattgacc aattaaactga gcacttgctg
1494 ctatttctag acatgaaatg tcaccttgct gagggccagc ccagcccagc
1544 atagcccag ggctggaaaa acgctttcat ctctaaaact gagaaatcat
1594 cataattgtg ctttcacttc ccaggctcca tgtgtcttgg agccgtcacc
1644 ccgaggctcc ctctttaggt cggagattgg ccttgccctgt cgaggcaaga
1694 ggctgcagag gcgggggacac acctgtgtcc tcctacccc accccaggcc
1744 cttgggtgtcc aggctgcacc cacagatgtc tgttgccaaa cagcctgccc
1794 tccctgccgg agccggctct gccagcccca gattgggaag tctcccgt
1844 ggagaagggt ggggctcctc tgagcctgcc ctgcctcctc catcagatcc
1894 tttgggaaga agtttctggg agatgcccg agctgtgcgt gcccagaca
1944 caaaggctgg cctgtgtgta agtcaaagtc actccgcaa acctgaatct
1994 cgagctacct attgggtctg tgaatgttct gtgtctttta ttattctcg
2044 ggtgatcagc tctttccaag ctogtgcc

18/52

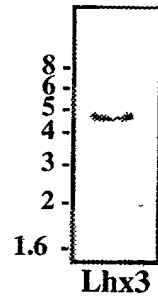


FIG. 12A

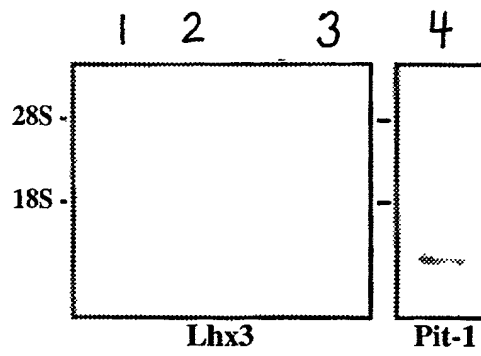


FIG. 12B

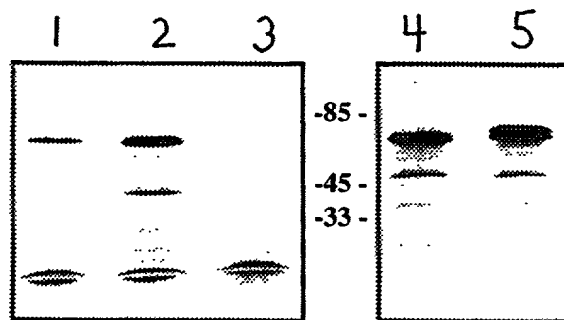


FIG. 12C

19/52

FIG. 13A

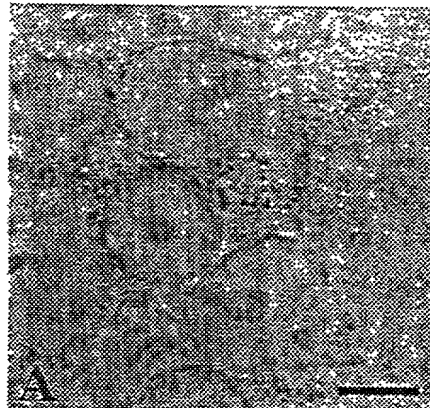


FIG. 13B

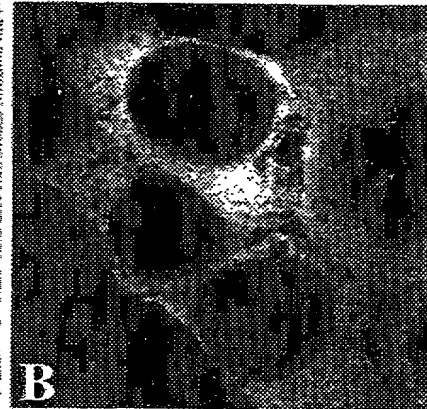


FIG. 13C

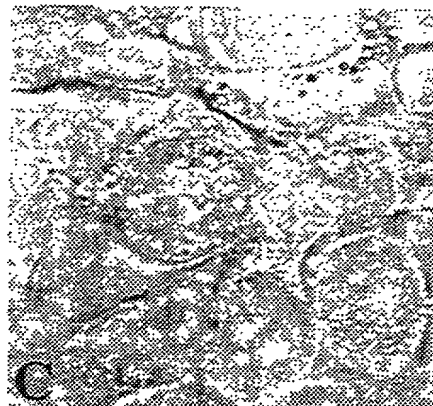


FIG. 13D

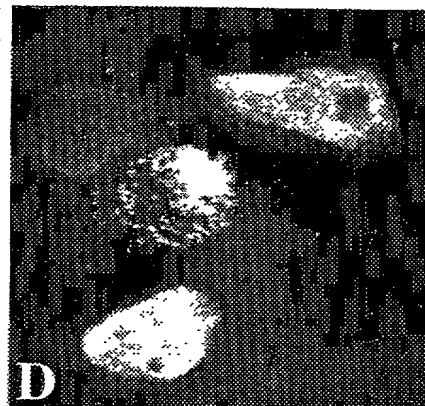


FIG. 13E

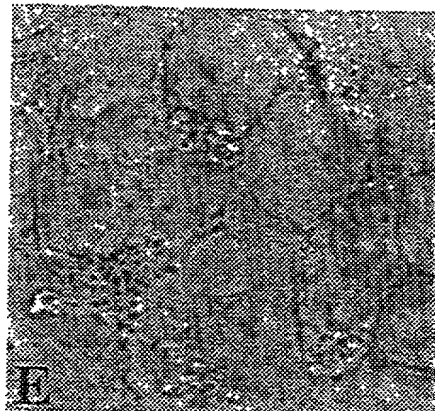


FIG. 13F

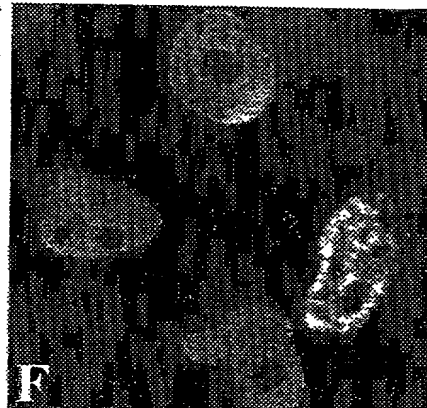
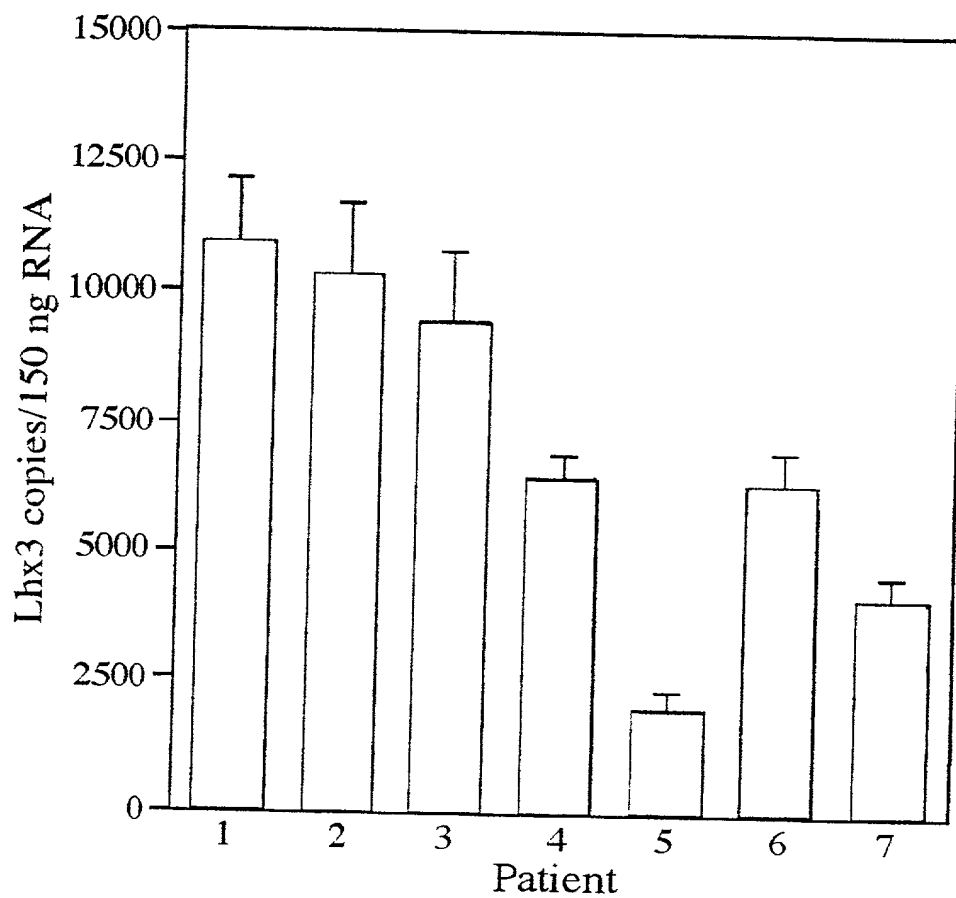
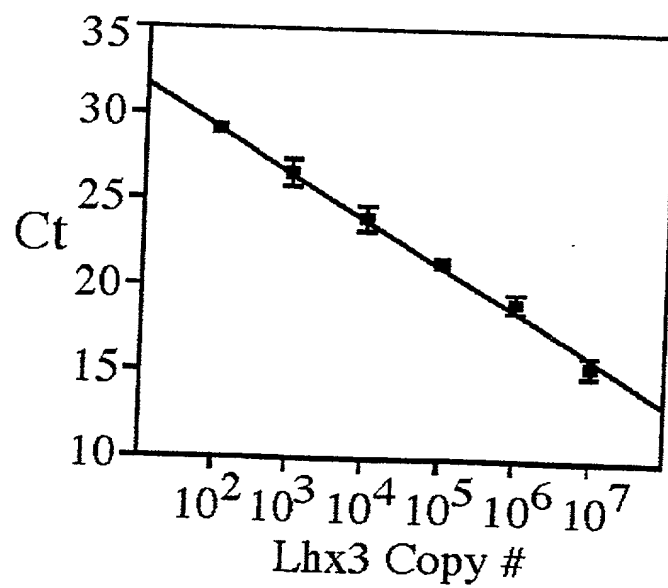
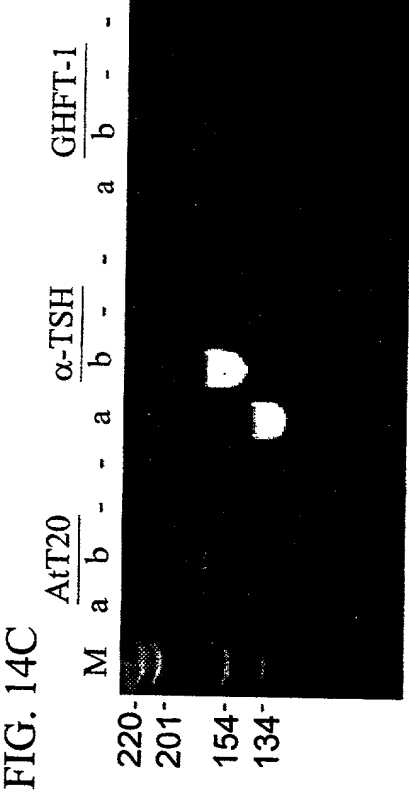
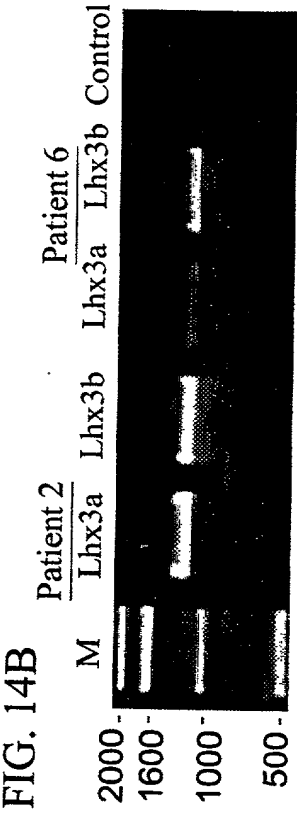


FIG. 14Ai**FIG. 14Aii**



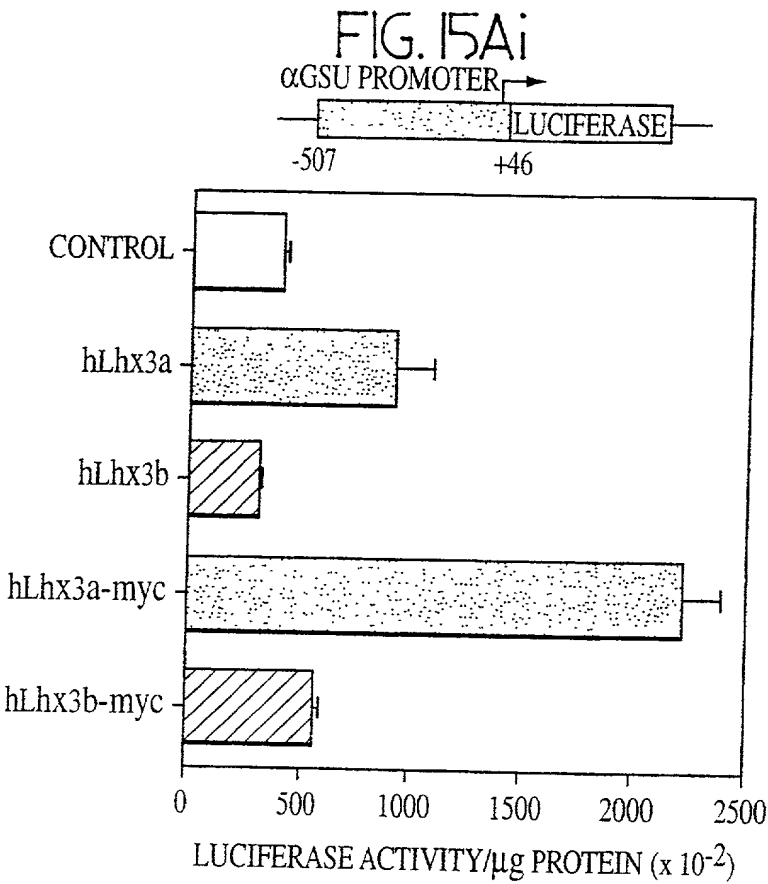


FIG. 15Aii

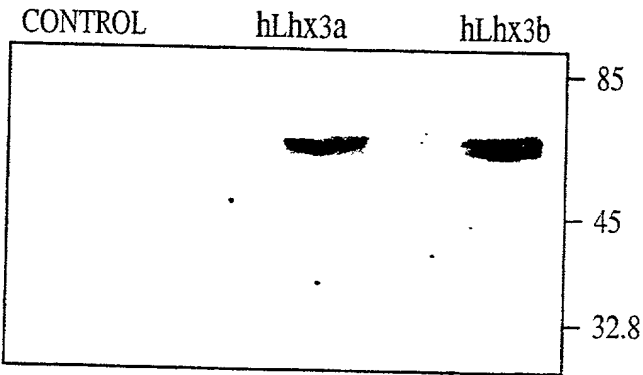


Fig. 15B

FIG. 16Ai

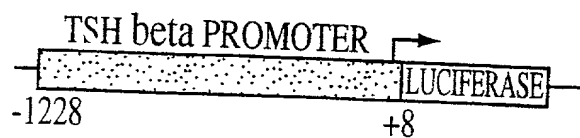


FIG. 16Aii

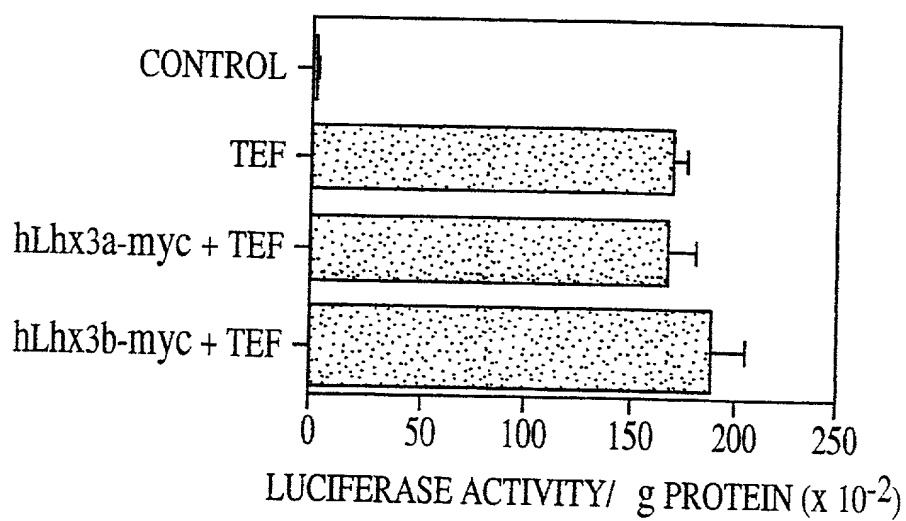
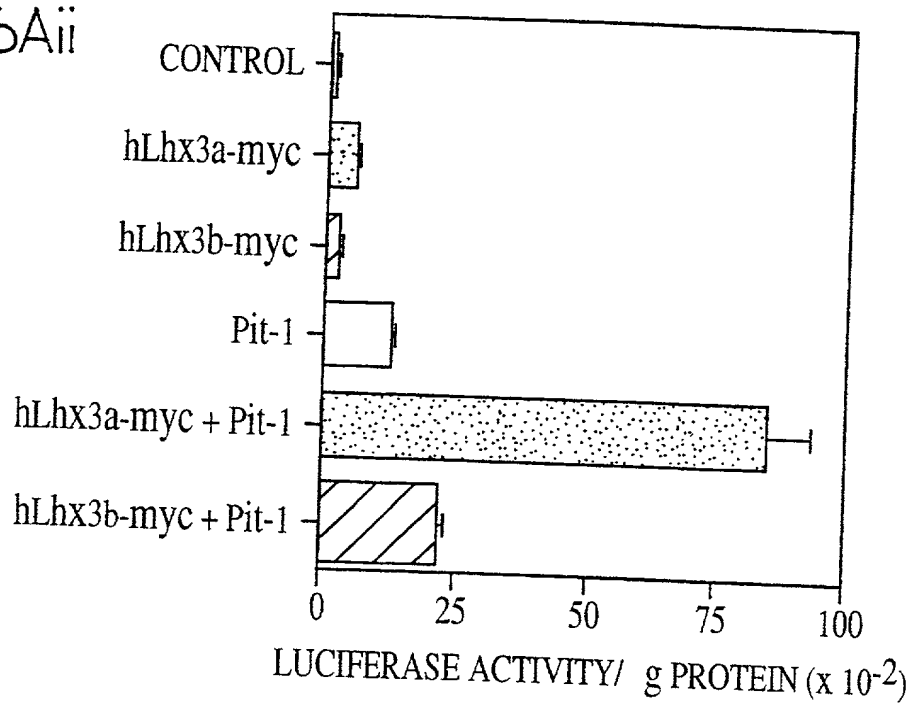


FIG. 16B

FIG. 17A

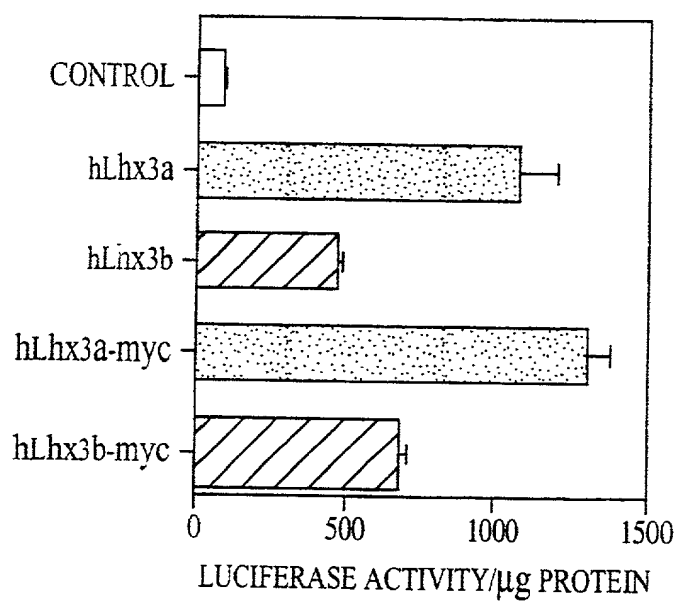
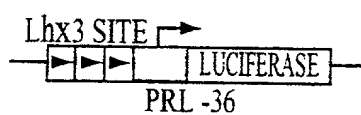


FIG. 17B

25/52

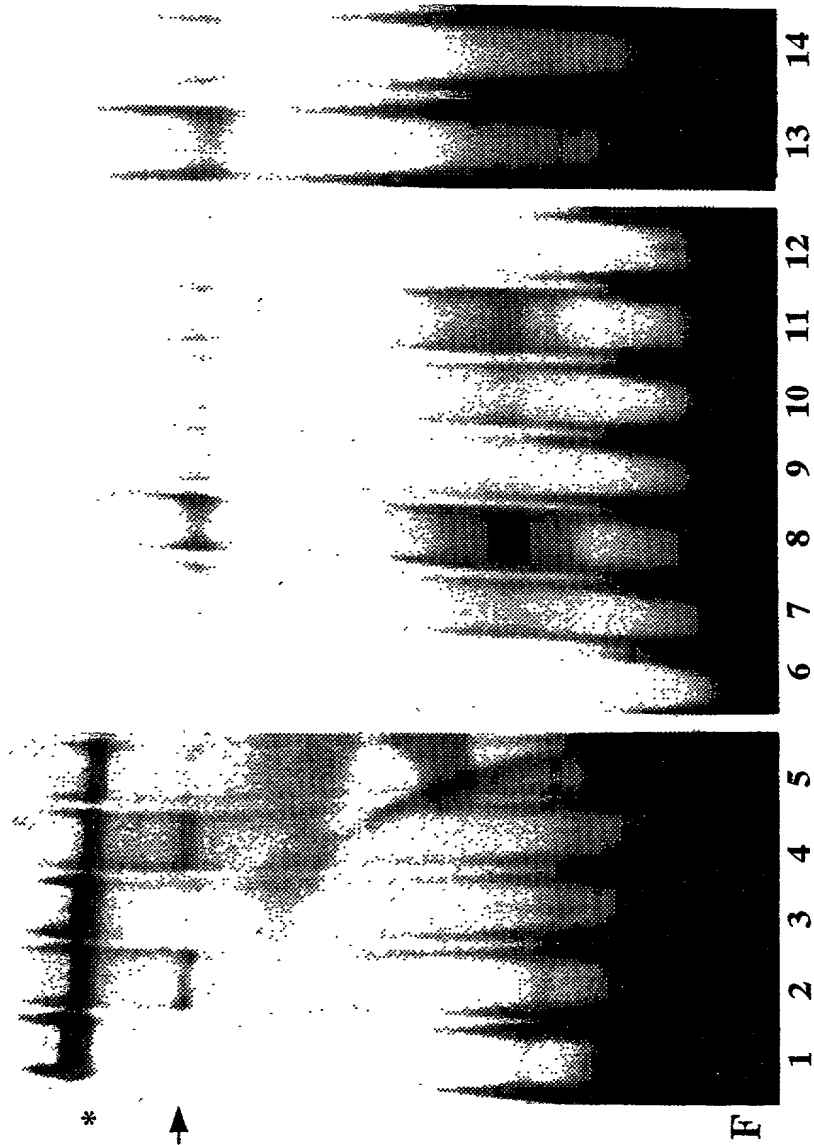


FIG. 18B

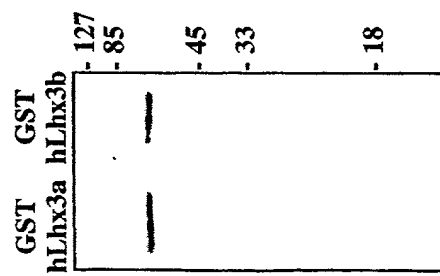


FIG. 18A

FIG. 19A

ttgatattta ccccgaggc ctgcagacag ggcaccagg agggcagcc
acatttgca ggagtccta taaagagtgg ccatgacgct taacatgaag
gagaccgat ggggtgccc agctccaggt gatggtgaag accogtttcc
ctatgtttcc tgcggggtt cagagagcag atccccctgg ggtggggttt
tcatttgagc tcacatgca ccttcttgg cactggcaac attttgtaat
tgagtattca gcctcgtgaa atggcctggg ctgctttctt gctcacacac
atttttagac cgatgtcagt ttcccttag ctcccgacat aggatgcggt
gcctgcacac tcccggaaact tgcggggcca cttaagctgg ctggggaaga
gggtgtgtag ggaaggagg acccctcggc ggcctgagt cctgtgggcc
ggaggggagg ctggtcgcg ttgggtggg aaggtggctt cactgcctcc
tggctacga ggtgaccag aacttcctcg tgcccaca GAGATCCC GCTGTGGCT
GGCTGTGACC AGCACATCCT GGACCGCTTC ATCCTCAAGG CTCTGGACCG
CCACTGGCAC AGCAAGTGTG TCAAGTGCAG CGACTGCCAC ACGCCACTGG
CCGAGCGCTG CTTAGCCGA GGGGAGAGCG TTTACTGCAA GGACGACTTT
TTCAAGCGCT TCGGGACCAA GTGCGCCCGG TGCCAGCTGG GCATCCCGCC
CACGCAGGTG GTGCGCCGCG CCCAGGACTT CGTGTACCAC CTGCACTGCT
TTGCCCTGCGT CGTGTGCAAG CGGCAGCTGG CCACGGGCGA CGAGTTCTAC
CTCATGGAGG ACAGCCGGCT CGTGTGCAAG GCGGACTACG AAACCGCCAA

FIG. 19B

GCAGCGAGAG GCCGAGGCCA CGGCCAAGCG GCCGCCACG ACCATCACCG
CCAAGCAGCT GGAGACGCTG AAGAGCGCTT ACAACACCTC GCCCAAGCCG
GCGCGCCACG TCGCGGAGCA GCTCTCGTCC GAGACGGGCC TGGACATGCCG
CGTGGTGCAG GTTTGGTTCC AGAACCGCCG GGCCAAGGAG AAGAGGCTGA
AGAAGGACGC CGGCCGGCAG CGTGGGGC AGTATTCCG CAACATGAAG
CGTCCCCGGG GCGGCTCCAA GTCGGACAAG GACAGCGTTC AGGAGGGCA
GGACAGCGAC GCTGAGGTCT CTTCCCCGA TGAGCCTTCC TTGGCGGAAA
TGGGCCCGGC CAATGGCCTC TACGGGAGCT TGGGGAACC CACCCAGGCC
TTGGGCCGGC CCTCGGGAGC CCTGGGCAAC TTCTCCCTGG AGCATGGAGG
CCTGGCAGGC CCAGAGCAGT ACCGAGAGCT GCGTCCCGGC AGCCCCTACG
GTGTCCCCC ATCCCCCGC GCCCCGAGA GCCTCCCTGG CCCCCAGCCC
CTCCTCTCCA GCCTGGTGTG CCCAGACACC AGCTTGGGCC TTGTGCCCTC
GGGAGCCCC GCGGGGCCCC CACCCATGAG GGTGCTGGCA GGGAACGGAC
CCAGTTCTGA CCTATCCACG GGGAGCAGCG GGGGTACCC CGACTTCCCT
GCCAGCCCCG CCTCCTGGCT GGATGAGGTA GACCACGCTC AGTTCTGACC
caggccggc tccacctgc acctcacag agggagtgc ccctgggtgg
gcggctcggg gctgctgggg ttccgagga agtggggcca gggcgtcaag
ggagggtgg tgccttcgga gcctccact gccgaccgca cagctccctc

FIG. 19C

tctgggggct gagggaccca cctggccccc ccttgacac agggctggcc
cgccaggtgg cctcccagca agccagcctt ttttgtaagc aaatttctcc
cctttattga ccaattaaact gagcacttgc tgctatttct agacatgaaa
tgtcaccttg ctgaggccca gccagccca gcatagccg agggctggaa
aaacgctttc atctctaaaa ctgagaaatc atcataattg tgctttcact
tcccaggctc catgtgtctt ggagccgtca cccgaggct ccctcttag
gtcggagatt ggccttgccct gtcgaggcaa gaggctgcag aggcggggac
acacctgtgt cctcctcacc ccaccccagg cccttggtgt ccaggctgca
cccacagatg tctgttgcca aacagcctgc cctccctgcc ggagccggct
ctgccagccc cagattggga agtctccccg ctggagaagg gtggggctcc
tctgagcctg ccctgcctcc tccatcagat cctttgggaa gaagtttctg
ggagatgccc gcagctgtgc gtgccccaga cacaaaggct ggcctgtgtg
taagtcaaag tactcccgc aaacctgaat ctcgagctac ctattgggtc
tgtgaatgtt ctgtgtcttt tatttattct cgggtgatca gctcttcca
agctcgtgcc

FIG. 20A

gatcgcttcg gcagcagctg aactcagcc acctgcaccc agcacagccc
 gcacacactt ggctttgcac ccgcgtgtcc ttgccctggc ccttcttggg
 taacaagtgc tgtgcaaat gaaggggcag aaagctggct gcatgggcca
 ctgctcaaaa cggacacatc ggacctgctg ggagctagga gggagggact
 gtggtttctt gtgcccattc ttctggcct gggcccttaa agctcacagt
 ccagaagcca taggcagagt ggacagagta ttgctgtgag acccacagg
 agagggacct gcaggatggc atcagccctt ggtccccc aa ccttctctgt
 gtgtttctgc gactgccag ggcacccctg cctttgccaa gtcctgtgct
 gccgagggcc acccactgct gtgttcttc ccgggtggct gcccaggct
 ggtgctggcc cagggccctc tgggcagggg tgggtgcgtc cctctgcctg
 caaggacagg tgggttctgg agagctcacc tgtgtggact ggggcaagag
 gctgaaatat caGAGATCCC GCTGTGCGCT
GGCTGTGACC AGCACATCCT GGACCGCTTC ATCCTCAAGG CTCTGGACCG
CCACTGGCAC AGCAAGTGTC TCAAGTGCAG CGACTGCCAC ACGCCACTGG
CCGAGCGCTG CTTCAAGCCGA GGGAGAGCGG TTACTGCAA GGACGACTTT
TTCAAGCGCT TCGGGACCAA GTGCGCCCGG TGCCAGCTGG GCATCCCGCC
CACGCAGGTG GTGCGCCCGG CCCAGGACTT CGTGTACCAC CTGCACTGCT
TTGCCCTGCCG CTGTGTGCAAG CGGAGCTGG CCACGGGCGA CGAGTTCTAC

FIG. 20B

CTCATGGAGG ACAGCCGGCT CGTGTGCAAG GCGGACTACG AAACCGCCAA
 GCAGGAGAG GCCGAGGCCA CGCCCAAGCG GCCGGCACG ACCATCACCG
 CCAAGCAGCT GGAGACGCTG AAGAGCGCTT ACAACACCTC GCCCAAGCCG
 GCGCGCCACG TCGCGGAGCA GCTCTCGTCC GAGACGGGCC TGGACATGCG
 CGTGGTGCAG GTTTGGTTCC AGAACCCCGG GGCCAAGGAG AAGAGGCTGA
 AGAAGACCG CGGCCGGCAG CGCTGGGGC AGTATTTCCG CAACATGAAG
 CGTCCCGCG GCGGCTCCAA GTCCGACAAG GACAGCGTTC AGGAGGGCA
 GGACAGCGAC GCTGAGGTCT CTTCCCCGA TGAGCCTTCC TTGGCGGAAA
 TGGGCCCGGC CAATGGCCTC TACGGGAGCT TGGGGGAACC CACCCAGGCC
 TTGGGCCGGC CCTCGGGAGC CTTGGGCAAC TTTCTCCCTGG AGCATGGAGG
 CCTGGCAGGC CCAGAGCAGT ACCGAGAGCT GCGTCCCGGC AGCCCCTACG
 GTGTCCCCC ATCCCCCGC GCCCCGCAGA GCCTCCCTGG CCCCCAGCCC
 CTCCTCTCCA GCCTGGTGTA CCCAGACACC AGCTTGGGCC TTGTGCCCTC
 GGGAGCCCC GCGGGGCCCC CACCCATGAG GGTGCTGGCA GGAACGGAC
 CCAGTCTGA CCTATCCACG GGGAGCAGCG GGGGTTACCC CGACTTCCCT
 GCCAGCCCC CCTCCTGGCT GGATGAGGTA GACCACGCTC AGTTCTGACC
 caggcccggc tccaccctgc acctcacag agggagctgc ccctgggtgg
 gcggtcggg gctgctgggg tttccgagga agtggggcca gggcgtcaag

FIG. 20C

ggagggtgg tgccttcgga gctccact gccgaccga cagctccctc
tctgggggct gagggaccca cctggccct ccttgacac agggctggcc
cgccagggtgg cctcccagca agccagcctt ttttgtaagc aaatttctcc
cctttattga ccaattaaact gagcacttgc tgctatttct agacatgaaa
tgtcaccttg ctgaggccca gccagccca gcatagccg agggctggaa
aaacgcttct atctctaaa ctgagaaatc atcataattg tgccttctact
tcccaggctc catgtgtctt ggagccgtca cccgaggct ccctcttag
gtcggagatt ggccttgcct gtcgaggcaa gaggtgcag aggcggggac
acacctgtgt cctcctcacc caccgccagg cccttggtgt ccaggctgca
cccacagatg tctgttgcca aacagcctgc cctccctgcc ggagccggct
ctgccagccc cagattggga agtctcccc ctggagaagg gtggggctcc
tctgagcctg ccctgcctcc tccatcagat cctttgggaa gaaatttctg
ggagatgccc gcagctgtgc gtgccccaga cacaaggct ggcctgtgtg
taagtcaaag tcactccgc aaacctgaat ctgagctac ctattgggttc
tgtgaatggt ctgtgtcttt tatttattct cgggtgatca gctcttcca
agctcgtgcc

FIG. 21A

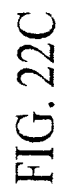
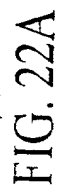
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gcacggcctg ggcaactgcct tccagaggct gcatgccaga agGAGATCCC GCTGTGGGCT
GGCTGTGACC AGCACATCCT GGACCGCTTC ATCCTCAAGG CTCTGGACCG
CCACTGGCAC AGCAAGTGTC TCAAGTGCAG CGACTGCCAC ACGCCACTGG
CCGAGCGCTG CTTCAGCCGA GGGAGAGCG TTTACTGCAA GGACGACTTT
TTCAAGCGCT TCGGGACCAA GTGCGCCGCG TGCCAGCTGG GCATCCCCGCC
CACGCAGGTG GTGCGCCGCG CCCAGGACTT CGTGTACCAC CTGCACGTCT
TTGCCCTGCCG CGTGTGCAAG CGGCAGCTGG CCACGGGCGA CGAGTTCTAC
CTCATGGAGG ACAGCCGGCT CGTGTGCAAG GCGGACTACG AAACCGCCAA
GCAGCGAGAG GCCGAGGCCA CGGCCAAGCG GCCGCGCACG ACCATCACCG
CCAAGCAGCT GGAGACGCTG AAGAGCGCTT ACAACACCTC GCCCAAGCCG
GCGGCCACG TGCGCGAGCA GCTCTCGTCC GAGACGGGCC TGGACATGCG
CGTGGTGCAG GTTTGGTTCC AGAACCGCCG GGCCAAGGAG AAGAGGCTGA
AGAAGGACGC CGGCCGGCAG CGCTGGGGC AGTATTTCCG CAACATGAAG
CGCTCCCCGG GCGGCTCCAA GTCGGACAAG GACAGCGTTC AGGAGGGCA
GGACAGCGAC GCTGAGGTCT CCTTCCCCGA TGAGCCTTCC TTGGCGGAAA
TGGGCCCGGC CAATGGCCTC TACGGGAGCT TGGGGGAACC CACCCAGGCC
TTGGGCCGGC CCTCGGGAGC CCTGGGCAAC TTCTCCCTGG AGCATGGAGG

FIG. 21B

CCTGGCAGGC CCAGAGCAGT ACCGAGAGCT GCGTCCCGGC AGCCCCCTACG
GTGTCCCCC ATCCCCCGCC GCCCCGCAGA GCCTCCCTGG CCCCCAGCCC
CTCCTCTCCA GCCTGGTGTGTA CCAGACACACC AGCTTGGGCC TTGTGCCCTC
GGGAGCCCC GCGGGGCCCC CACCCATGAG GGTGCTGGCA GGAACGGAC
CCAGTTCTGA CCTATCCACG GGGAGCAGCG GGGTTACCC CGACTTCCCT
GCCAGCCCCG CCTCCTGGCT GGATGAGGTA GACCACGCTC AGTTC TGACC
caggcccggc tcacccctgc acctcacacg agggagctgc ccctgggtgg
gcggctcggg gctgctgggg ttccgagga agtggggcca gggcgtcaag
ggagggtgg tgcttcgga gcctccact gccgaccgca cagctccctc
tctgggggt gagggacca cctggccct cctctgacac agggctggcc
cgccagggtgg cctccagca agccagcctt ttttgtaagc aaatttctcc
cctttattga ccaattact gagcacttgc tgctatttct agacatgaaa
tgtcaccttg ctgaggccca gccagccca gcatagccg agggctggaa
aaacgcttcc atctctaaaa ctgagaaatc atcataattg tgctttcact
tcccaggctc catgtgtctt ggagccgtca cccgaggct ccctcttag
gtcggagatt ggccttgctt gtcgaggcaa gaggtgcag aggcggggac
acacctgtgt cctcctcacc ccacccagg cccttggtgt ccaggctgca
cccacagatg tctgttgcca aacagcctgc cctccctgcc ggagccggct

FIG. 21C

ctgccagccc cagattggga agtctccccg ctggagaagg gtggggctcc
tctgagcctg ccctgcctcc tccatcagat ccttgggaa gaagtctctg
ggagatgccc gcagctgtgc gtgccccaga cacaaaggct ggcctgtgtg
taagtcaaag tcactccgc aaacctgaat ctgagctac ctattgggtc
tgtgaatgtt ctgtgtcttt tattattct cgggtgatca gctctttcca
agctcgtgcc



36/52

FIG. 23C



FIG. 23B



FIG. 23A

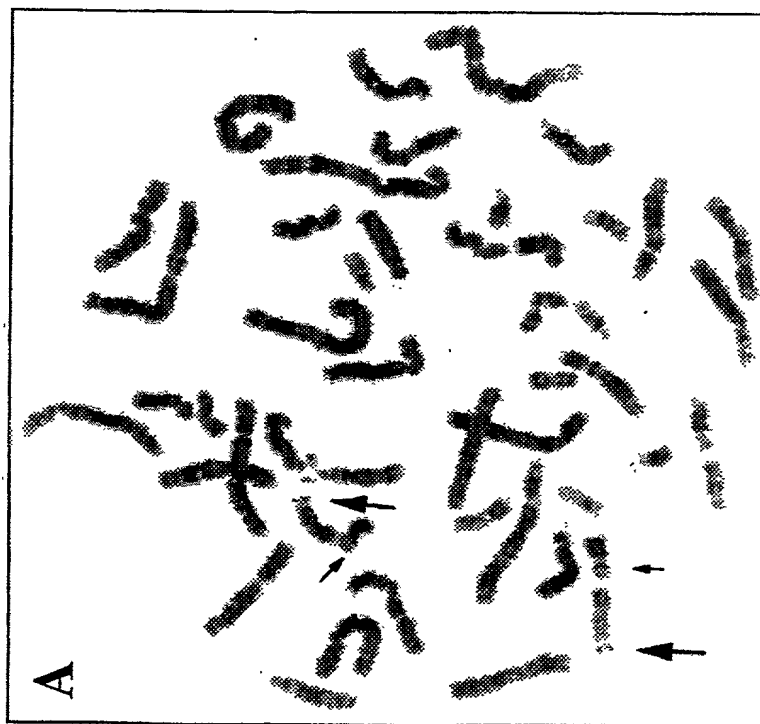


FIG. 24

1 MLLETGLERDRARPGAAAVC TLGGTR
 27 EIPLCAGCDQHILDRFILKA LDRHWSKCL KCSDCHTPLA ERCFSRGE.SV
 77 YCKDDFFKRF GTKCAACQLG IPPTQVVRRA QDFVYHLHCF ACVVCKRQLA
 127 TGDEFFYLMED SRLVCKADYE TAKQREAEAT AKRPRTTITA KQLETILKSAY
 177 NTSPKPARHV REQLSSETGL DMRVVQVWFQ NRRAKEKRLK KDAGRQRWGQ
 227 YFRNMKRSRG GSKSDKDSVQ EGQSDAEVS FPDEPSLAEMGPANGLYGSL
 277 GEPTQALGRP SGALGNFSLE HGGLAGPEQY RELRPGSPYG VPPSPAAPQS
 327 LPGPQPLLSS LVYPDTSLGL VPSGAPGGPP PMRVLAGNGP SSDLSTGSSG
 377 GYPDFPASPA SWLDEVDDHAQ F*

FIG. 25

1 MEARGELGPA RESAGGDL LLL ALLARRADLR R
 32 EIPLCAGCDQHILDRFILKA LDRHWSKCL KCSDCHTPLA ERCFSRGE.SV
 82 YCKDDFFKRF GTKCAACQLG IPPTQVVRRA QDFVYHLHCF ACVVCKRQLA
 132 TGDEFFYLMED SRLVCKADYE TAKQREAEAT AKRPRTTITA KQLETILKSAY
 182 NTSPKPARHV REQLSSETGL DMRVVQVWFQ NRRAKEKRLK KDAGRQRWGQ
 232 YFRNMKRSRG GSKSDKDSVQ EGQSDAEVS FPDEPSLAEMGPANGLYGSL
 282 GEPTQALGRP SGALGNFSLE HGGLAGPEQY RELRPGSPYG VPPSPAAPQS
 332 LPGPQPLLSS LVYPDTSLGL VPSGAPGGPP PMRVLAGNGP SSDLSTGSSG
 382 GYPDFPASPA SWLDEVDDHAQ F*

FIG. 26A

1 ggcacgagcc cgcacgacg cggcgggact tgggagcccc gaaccctcca
51 ggggacgctg acctcggagg agcgcgtctc gcgccactcg gcctggtggc
101 cgcgATGCTG CTGGAACGG GGCTCGAGCG CGACCGAGCG AGGCCCGGGG
151 CCGCCGCCGT CTGCACCTTG GCGGGACTC GGGgtaagcc ccagcaggac
201 actgaggaca gaaacggcaa gggcggcaga ggcgcgagga agggggtgcg
251 tgcaggggcca gcggccaggc aaagaaagtc ccgccgctct gcaggcggga
301 cacagagatg gaaactgcag agagtgagtt tccagatccc agggtggcgg
351 ggagggcctg acgctggcct gcaagagtgc gggacagcgg ttggagtgga
401 ggcccttaga aaaaaagggg gcatcgcagg cacagctggg gggcgcgatggg
451 gccgaccaag ggggtgctagg ttccccgggt gaccagtgcc cgtcagctct
501 tgcacacagc ccggcccagg ttcttgacc ccacagcagg ggacccaagc
551 cttgtgtctc ccgcctgaac caccctcccc aagggccatt ccataccacc
601 ggacgctggg aaataatgga ggcatgttg gagggctggc cagatgccag
651 cagggtgggc cgcctcctta acctggcgcc gcccttccc cagtccctgc
701 acacacgacc cctgatcgct tcggcagcag ctgacactca gccacctgca
751 ccagcacag ccgcacaca ctcggtttg caccgcgtg tccttggcct
801 ggccctctt gggtacaag tgctgtgcaa agtgaagggg cagaaagctg
851 gctgcatggg ccactgctca aaacggacac atcggacctg ctgggagcta
901 ggaggagggg actgtggttt cttgtgccc tcttctggg cctgggcccct

FIG. 26B

951 taaagctcac agtccagaag ccataggcag agtggacaga gtattgctgt
1001 gagacccaca gggagaggga cctgcaggat ggcatcagcc cctgggtcccc
1051 caacccttcc tgttgtttc tgcgactgc cagggcaccc ctgctttgcc
1101 aagtcctgtg ctgccgaggg ccaccactg ctgtgttctt ccccggtgg
1151 ctgccagggt ctggtgctgg ccaggggccc tctgggcagg ggtgggtgcg
1201 tccctctgcc tgcaaggaca ggtgggttct ggagagctca cctgtgtgga
1251 ctggggcaag aggtgaaat atcaggtaa ggaccgtgtt ccaatggagc
1301 cggagtgtg ggggctggaa atggaagtg tgcctgggg ctccccagc
1351 tcggccctc acgaccgag gtcttggtg cgtgtccagg acacagagcc
1401 tgttctctct caaggattgc ccttctccc tgagccgtcc ggggcccag
1451 ttccagggtt ggagcccaga agcctgttag catctggat cggtcggca
1501 ccttgcggtt ccggtacgca gccctcggcg ccacactcac cccttctgcg
1551 ttctcggttg agtcccgcg gaccatctgc tgctcccgag gccaaacctc
1601 agcggcgagg gaccctgct gccttctcga cccctctccc gggaacctta
1651 gccctcctgg cgtgtgctcc agctcaggcc tctgcctctg gcccgctccg
1701 gcgcaggaa gtgcggggcc gggacgaacg ctggcgggaa gccctgacct
1751 gggccctccc ttaccggtgc ccgccctcg gccgggcacg cggggcgggc
1801 tctgggcacc gcaggtcccg gcgcaaaagg gctcagagtc cgcagtggcc
1851 cgggctggtc tccgcgaccc ccggccccc ccgccccgc ggccccgcc

FIG. 26C

1901 cccggccgct ccgccctccg ctcgcccaga ggctccgggc ccagggcgg
 1951 cccgcgggCg cagcgccag cagcaccgg agtcgcttg acgccggtc
 2001 ggggctattg cggggtggcg tcgctgggc cgggaaagt cgggactgga
 2051 gagtggcgac gccgggcggc gggacccATG GAGCGCGCG GGGAGCTGGG
 2101 CCCGGCCCCG GAGTCGGCGG GAGCGACCT GCTGCTAGCA CTGCTGGCGC
 2151 GGAGGGCAGA CCTGCGCCGA Ggtgggtgcc cgggccgagc ggctgcaccg
 2201 gggagaccag gagatcctca gccctttccg ggcctggccg cggaggctgg
 2251 caggagctag aggatctggg cgggagtggg cgcgaggacc ccggaacgtc
 2301 cgcgcctggg cgcctcagcc tgtatttgtt gcaggggccc tggcctgggt
 2351 tgtcagggag tgagtgggt tgtggcactg cgctgctccg gccaggggagc
 2401 tctcgggggt ccagggtggg cttaggagac ctctgcagcc cggagccagc
 2451 tccctgggct ggaggaggcg cagggagcag tggcggggca gtgaccacgg
 2501 gacaggaggg tcccaagaa ggcgcggcca gccggactct tccacgttc
 2551 cagcggaaaca ggtcagatg caggggccaa ggtcgagctg aactccgacc
 2601 gtcgggtctcc ccgaagccag gtttcagcgt ctgcgccac agacaccgc
 2651 tcggtttatc cccgctcagg gcccgctgtg aggaanaagc ctctcttctc
 2701 caggccccc agcttctctgg tggcaccact ctactccca gcactttggt
 2751 tcttagggaa cctgggcagt tctctcgac tcccgggcca ggtggagccg
 2801 caggatgggg aaggaggccc cggagccagt ggggagtgag agggaccggc

FIG. 26D

2851 cggcgggaag ggggttacat ccaggctgtg ggggctcgcg gttccctact
 2901 tatattatta ttttctgaag gttcctggga ggggttgccc gcgggggctg
 2951 gggggcggag agaggaagg aggaaggagg actgcgcgcc cgcgctcggg
 3001 agagctggcc ggagcggcg ggctggcgtc caggctccgc cgaccccgcc
 3051 atccctgaca caggagcccc cgccagggct ggagtcgcca tgcagcgtaa
 3101 ggctggggtc gcgggcgcgg cgcggggtgg gctggggcgg cttttgcccg
 3151 acgcgggcgc cggcggcgag ctgcggccga ggcgctgtcc ggtccgcggt
 3201 gctgaatccg cgctgtgtcg gcctgtcggg ccgccccgct ccgaccgggt
 3251 cctcgctgc gatcgctgcc cagatgggg accccggcg cgcagcgggt
 3301 cctcgacgct ccgcacccgg agctgcggtt ttgcccgatg cggggcgcat
 3351 tcatcgccgg tttcccgcca ctggtgggg aggcgcagcc cagtttttc
 3401 cgccggagggt cgagggagcc cttcctggt gtctctcacc cactgggaga
 3451 tgggctggag ccggcggggt ccacagccag ggaggcgggt gcaatatgtc
 3501 agtaaatccc ggtcccttca gcgggcactc ctctcttcca gagactttt
 3551 ctaagtgaag agggagtctc cagcccttga cacctggaaa acccgctcac
 3601 agactcgagg ctcccacagg gcacccttgg acctccccag tgtggttcct
 3651 ccagggggcc tgcagtattg aagtggggtg tggggggcag aagcagcggg
 3701 aagccagacg tttgagtaac tctgncggtg ttggggggcac ccacgcttga
 3751 cacaaagcca gtggatgggt ttgtccagtc cactcataag taattttgog

FIG. 26E

3801 gctgcccaat gatggggaag gcattgatatt ttaccccgga ggcctgcaga
 3851 cagggccacc aggcaggga gccacatttg cgaggagtc ctagaaagag
 3901 tggccatgac gcttaacatg aaggagacc gatggggtgc ccagctcca
 3951 ggtgatggtg aagacccgtt tccctatgtt tcctgccggg cttcagagag
 4001 cagatcccc tggggtgggg ttttcatttg agctccacat gcacccttct
 4051 tggcactggc aacattttgt aattgagtat tcagcctcgt gaaatggcct
 4101 gggctgcttt cttgctcaca cacattttta gaccgatgtc agtttccct
 4151 tagctcctga cataggatgc ggtgcctgca cactcccgga acttgcgggg
 4201 ccacttaagc tggctgggga agagggtgtg tagggaaagg aggacccctc
 4251 ggcagccctg agtcctgtgg gccggagggg aggcctggctc gcgttggggt
 4301 gggaagggtg cttcactgcc tcctggtcta cgagtgacc cagaacttcc
 4351 tcgtgcccac agAGATCCCG CTGTGCGCTG GCTGTGACCA GCACATCCTG
 4401 GACCGCTTCA TCCTCAAGGC TCTGGACCGC CACTGGCACA GCAAGTGTCT
 4451 CAAGTGCAGC GACTGCCACA CGCCACTGGC CGAGCGCTGC TTCAGCCGAG
 4501 GGGAGAGCGT TTA CTGCAAG GACGACTTTT TCAAgtagc cccgaaacct
 4551 cacctcagtg tggagcggga gggcacgcct gccccaggga ctctccccct
 4601 cacaatcacc aaggccaggc cctcgaagcc tgcgtctctc gcaatcccag
 4651 cccactcctg tcacccaggc agggcacacct gcggcctggc caaatgaag
 4701 gtggggcctc tccatgggtg ctccctgggt ggctgggcct ggctgggaca

FIG. 26F

4751 tcagcaagta ttatttcgaa aaaaaagcaa ttattacct aatcacaga
4801 agcagtcatt agagaagata caccctatt tgtaggattc tactggactt
4851 agttcctccg aaattggtga tgtttttagtt cctaattgctg gcaccacagcg
4901 gctctggccc agtggccttc atggctccag ctgtggggtg tgagggactg
4951 gcccagatg ggtcctctcc ctccggattc acctccag atccagcatg
5001 ggtcctgcag gcaatggcgg ctgggctccc cgaggtcttt ctgagattga
5051 ggttcccctc tcagtgggag tgggcagctc tgcccggcg gccaggctgg
5101 cgaccaccct gcagggcgg acagagcctt cctccggggc cgccttccca
5151 ggcagccgct tgccgctctc caaccgctc ggggcgaaat gaggctcgcg
5201 ctcccgct gagcccgcc ctgtgctcc cgcagGCGT TCGGGACCAA
5251 GTGCGCCCGG TGCCAGCTGG GCATCCCGCC CACGCAGGTG GTGCGCCGCG
5301 CCCAGGACTT CGTGACCAC CTGCACTGCT TTGCCTGCGT CGTGTGCAAG
5351 CGGCAGCTGG CCACGGCGA CGAGTTCTAC CTCATGGAGG ACAGCCGGCT
5401 CGTGTGCAAG GCGGACTACG AAACCGCCA GCAGCGAGgt cagccgaggg
5451 gacgacgctc ccacctttcc tggctgaaa aaaatggggc tgaggccacg
5501 ctcagggggg cgtccgggga aattctctcc ccaagcgctc actaaggggg
5551 cctgggctag ggcggtgtag gcagcaggaa gccgagggcg ggaacggcg
5601 agtcacggac agacccgcgt cccgaaccgc ttcgttcggt ccgaagtgtg
5651 cggcttttcg cccctggtcg gaattatcgc cctaaattct tggccgcgaa

FIG. 26G

5701 ggctgggcca taccacacc cttagaataa aggggagccc gcggggaaat
 5751 cagggtgctt ggagaagga gccaaggctg aaggcgggg cgccgtggag
 5801 gtgcgattt aggaaggcg ccgccccgc ccccgggca gaacccgccc
 5851 tccgcccgg cccctccac ccagcccgg gtgctgcccg tttttgcaa
 5901 tcgctcccag cgcccgcgcc ttcgagaag cctgtgggc gggatggggg
 5951 tgggcacctg agcccccgac gtccccgcg cggccgggt gggaggggtg
 6001 ggggtccggc ggggcccggag gggctgcgc gcctcacgc tggcccgcg
 6051 cgcagAGGCC GAGGCCACGG CCAAGCGCC GCGACGACC ATCACGCCA
 6101 AGCAGCTGA GACGCTGAG AGCGCTTACA ACACCTCGCC CAAGCCGGCG
 6151 CGCCACGTGC GCGAGCAGCT CTCGTCCGAG ACGGCCCTGG ACATGCGTGT
 6201 GGTGCAGgtc agcgctcgc cctgcttccc tcccgcgcg ggccttgggg
 6251 gccccgcag agccgggcgg ccgctcacc ccgccccgc ccagGTTGG
 6301 TTCCAGAACC GCCGGGCCAA GGAGAAGAG CTGAAGAAGG ACGCCGGCCG
 6351 GCAGCGCTGG GGCAGTATT TCCGCAACAT GAAGCGCTCC CGCGCGGCT
 6401 CCAAGTCGGA CAAGGACAGC GTTCAGGAGG GGCAGGACAG CGACGCTGAG
 6451 GTCTCCTTCC CCGgtaggcg gaggatcgc ggagctcgg ggggggacga
 6501 gcgcgcgtcg gcgggggtcgc aggggtccca gggagcccgc ggatctgaat
 6551 tccccatgga gttagtggac tccttaagtt ctactttcaa aagcatttca
 6601 cttacagaac ctgctcccc agcacccctcc ccgcctggg tggccactcc

FIG. 26H

6651 ggaccactgc ttttcccctg gtggggacac aatccctgtg gcccgacctg
6701 tccccaaagt gggcgacctac gggctttctc atgggggggt gggcgtgtcc
6751 aggccgtctc tctggctcct agcccttgca gtgattttta ggagaaatggg
6801 cagtgcattt cgggaaagac tgagtgaag toccagctgc ttggagttgg
6851 gggagggggc tacctgggt caggagaga aggttccata cccttctgtg
6901 ggggctggat tatttatttc attctcggg caccgggat gctgcgtccc
6951 catctgtga tgcccatcct cagaatgtg acaagacact ctcttttggg
7001 ctgcctcgtg acccgggcta ctactcagc cactctggaa ctaaatatcc
7051 ttgtctgcaa aatgtgggtg gtggtatctg tgcccccttc ctaggctgct
7101 gtggggtgg tcctgaaagc ctgggccctg gctgggctgt tcctgactct
7151 gatcccacca ggcctgagac acctgggctg actcaggggt gagggcagtg
7201 gaggggcagg gacagccatg ctccaacagt agaaggggcc tgtgctgacc
7251 tgtcatgtgg tgtggggcag ccactcttct tctgacccag gggcgcctcc
7301 gcctgcagga tgggactctg aggggcccga ggtggagggc aggcgctgac
7351 tgagcctctg cttctgttgc agATGAGCCT TCCTTGGCGG AAATGGGCCC
7401 GGCCAATGGC CTCTACGGGA GCTTGGGGGA ACCACCCAG GCCTTGGGCC
7451 GGCCCTCGGG AGCCCTGGGC AACTTCTCCC TGGAGCATGG AGGCCTGGCA
7501 GGGCCAGAGC AGTACCGAGA GCTGCGTCCC GGCAGCCCCCT ACGGTGTCCC

FIG. 26I

7551 CCCATCCCCC GCCGCCCCGC AGAGCCTCCC TGGCCCCCAG CCCCTCCTCT
 7601 CCAGCCTGGT GTACCCAGAC ACCAGCTTGG GCCTTGTGCC CTCGGGAGCC
 7651 CCCGGCGGGC CCCACCCAT GAGGTGCTG GCAGGGAACG GACCCAGTTC
 7701 TGACCTATCC ACGGGAGCA GCGGGGTTA CCCCAGACTTC CTTGCCAGCC
 7751 CCGCCTCCTG GCTGGATGAG GTAGACCACG CTCAGTTCTG Accaggccc
 7801 ggctccaccc tgcacctcac acgagggagc tgccccctggg tgggcggctc
 7851 ggggctgctg ggggtttccga ggaagtggg ccagggcgtc aagggaaggc
 7901 tgggtgccttc ggagcctccc actgccgacc gcacagctcc ctctctgggg
 7951 gctgagggac ccacctggcc cctcctctga cacagggctg gcccgccagg
 8001 tggcctccca gcaagccagc cttttttgta agcaaatctc tccccttat
 8051 tgaccaatta actgagcact tgctgctatt tctagacatg aaatgtcacc
 8101 ttgctgaggc ccagcccagc ccagcatagc ccgagggctg gaaaaacgct
 8151 ttcatctcta aaactgagaa atcatcataa ttgtgcttct acttcccagg
 8201 ctccatgtgt cttggagccg tcaccccgag gctccctctt taggtcggag
 8251 attggccttg cctgtcgagg caagaggctg cagaggcggg gacacacctg
 8301 tgtcttcggg gagaggcccc ctctctctcc cagaccacag ggggcctctc
 8351 tgcctccagc ccaccttcc ccgggagaag ctttcccca tccccaggtc
 8401 tctagatcat tctgttctcg agtatcctgt ggaggaggca aaatgcctg

FIG. 26J

8451 gcgccccctctctccaagct caattctcta agccccctcag ggtctcctcc
 8501 tcacccccacc ccaggccctt ggtgtccagg ctgcaccac agatgtctgt
 8551 tgccaaacag cctgccctcc ctgccggagc cggctctgcc agccccagat
 8601 tgggaagtct ccccgctgga gaagggtggg gctcctctga gcctgccctg
 8651 cctcctccat cagatccctt gggagaagt ttctgggaga tgcccgcagc
 8701 tgtgcgtgcc ccagacacaa aggctggcct gtgtgtaagt caaagtcact
 8751 cccgcaaacc tgaatctcga gctacctatt ggttctgtga atgttctgtg
 8801 tcttttattt attctcgggt gatcagctct ttccaagact tcaaaaaant
 8851 gtcagttacc tcgtgcc

FIG. 27A

1 atgctgctgg aaacggagct ggcgggcgac cgagatcggc ccggggcccc
 51 cgcagccgcc gctgtctgca cctaccggg gactcgggag atcccactgt
 101 gtgccggctg cgaccagcac atcctggacc gcttcactcct caaggctctg
 151 gaccgccact ggcacagcaa gtgcctcaag tgcagtgact gccacacgcc
 201 gctggccgag cgctgcttca gccgcggaga gacctctac tgcaaggacg
 251 acttcttcaa gcgcttcggg accaagtgcg ccgcgtgcc a gctggggcatc
 301 ccgcccacgc aggtggtgcg ccgcgccccag gacttcgtgt accacctgca

FIG. 27B

351 ctgcttcgcc tgcgtcgtgt gcaagcggca gctggccacg ggcgacgagt
 401 tctacctcat ggaggacagc cggctcgtgt gcaaggccga ctacgagacc
 451 gccaaagcag gagaggccga ggccacggcc aagcggccgc gcacgaccat
 501 cacggccaag cagctggaga cgctgaagag cgctacaac acgtcgccca
 551 agcccgcgcg ccacgtgcgc gagcagctct cctccgagac cggcctggac
 601 atgcgcgtcg tgcaggtgtg gttccagaac cgccggggcca aggaagaagcg
 651 gctcaagaag gacgcggcc ggacgcgctg gggccagtac ttctgtaaca
 701 tgaagcgcgc ccgcggtggc tccaagtgg acaaggacag cgtccaggag
 751 gaggggcagg acagtgacgc cgaggtctcc ttcacagacg agccatccat
 801 ggccgaaatg ggccctgcca acggcctcta cggcggcctg ggggagcctg
 851 cccctgcctt gggccggccc tcgggggccc cgggcagctt cccgctggag
 901 cacggaggcc tggcgggccc ggagcagtat ggagagctgc gcccacgacg
 951 cccctacggt gtccctcgt cgcccgccc cctgcagagc ctccctggcc
 1001 cccagcccct cctctccagc ttggtgtacc cggaggctgg cttgggggctt
 1051 gtgcccgcgg gggcccccagg tgggccccca cccatgaggg tgctggcagg
 1101 gaacggaccc agctccgacc tatccacggg gagcagtggg ggctacccccg
 1151 acttccctgc cagtcccgcc tcctggctgg acgaggtgga tcacgctcag
 1201 ttctgactga gggcccagct ccgtggagca ccagacacga gcactgcccc

FIG. 27C

1251 tggctgggtg gtcgggagcc gcgctctcct ttccgaagc cctgggcctc
 1301 taaaggacac aggtcaccg gcggggcaca ggctgaggac tgtccagccc
 1351 ggcggccctg gcccgggca gaggacttt ctccgggtct cgaggctcct
 1401 tctgggacaa ggggagccac ctggtggctg ctcaagcaagc cttgttttgt
 1451 aagcagattc ctccctttat caacaaaat taactgagtg cttgctgctc
 1501 tttctagacc ggagtgttca gcccgaag ccggggaggg gggctctccc
 1551 cagccagag cagcacagcc ctgactgga agatgcttt aatttttaa
 1601 attaaaaat aatacgaact gtgcttccat ttccagctt cctctgtcta
 1651 gttctgcc

FIG. 28

1 MLLTELAGDRDRPGAPAAA AVCTLPGTRE IPLCAGCDQH ILDRFILKAL
 51 DRHWSKCLK CSDCHTPLAE RCFSRGESLY CKDDFFKRFG TKCAACQLGI
 101 PPTQVVRRAQ DFVYHLHCFA CVVCKRQLAT GDEFYLMEDS RLVCKADYET
 151 AKQREAEATA KRPRTTITAK QLETLKSAYN TSPKPARHVR EQLSSETGLD
 201 MRVVQVWFQN RRAKEKRLKK DAGRQRWGQY FRNMKRARGG SKSDKDSVQE
 251 EGQSDSAEVS FTDEPSMAEM GPANGLYGGL GEPAPALGRP SGAPGSFPLE
 301 HGGLAGPEQY GELRPSSPYG VPSSPAALQS LPGPQLLSS LVYPEAGLGL
 351 VPAGPPGGPP PMRVLAGNGP SSDLSTGSSG GYPDFPASPA SWLDEVDDHAQ
 401 F

FIG. 29A

1 atggaagcgc gcggggagct gggccccagc cgggagtcgg cgggcggcga
51 cctgctgctg gcgctgctgg cgcggaggga ggacctgogc cgagagatcc
101 cactgtgtgc cggctgcgac cagcacatcc tggaccgctt catcctcaag
151 gctctggacc gccactggca cagcaagtgc ctcaagtgca gtgactgcca
201 cacgccgctg gccgagcgtt gcttcagccg cggagagagc ctctactgca
251 aggacgactt cttcaagcgc ttccggacca agtgcgccgc gtgccagctg
301 ggcatccgc ccacgcaggt ggtgcgccgc gccaggact tcgtgtacca
351 cctgcactgc ttgcctgctg tcgtgtgcaa gcggcagctg gccacgggcg
401 acgagttcta cctcatggag gacagccggc tcgtgtgcaa ggcgactac
451 gagaccgcca agcagcgaga gccgaggcc acggccaaagc ggcgcgcac
501 gaccatcacg gccaaagcagc tggagacgct gaagagcgcc tacaacacgt
551 cggccaaagc cgcgcgccac gtgcgcgagc agctctcttc cgagaccggc
601 ctggacatgc gcgtcgtgca ggtgtggttc cagaaccgcc gggccaaagg
651 aaagcggctc aagaaggacg ccggccggca gcgctggggc cagtactttc
701 gtaacatgaa gcgcgccgc ggtggctcca agtcggacaa ggacagcgtc
751 caggaggagg ggcaggacag tgacgccgag gtctccttca cagacgagcc
801 atccatggcc gaaatgggcc ctgccaaagg cctctacggc ggcctggggg
851 agcctgcccc tgccttgggc cggccctcgg gggccccggg cagcttcccg

FIG. 29B

901 ctggagcacg gaggcctggc gggcccgag cagtatggag agctgcgccc
951 cagcagcccc tacggtgtcc cctcgtgcc cgccgccctg cagagcctcc
1001 ctggccccca gccctcctc tcagcttgg tgtaccgga ggctggcttg
1051 gggcttgtgc ccgcggggcc ccaggtggg ccccaacca tgagggtgct
1101 ggcaggggaa ggaccagct ccgacctatc cacggggagc agtgggggct
1151 accccgactt ccctgccagt ccgcctcct ggctggacga ggtggatcac
1201 gctcagttct gactgaggcc ccagctccgt ggagcaccag acacgagcac
1251 tgcccctggc tggggtgtcg ggagccgcgc tctccttcc cgaagccctg
1301 ggcctctaaa ggacacaggg tcaccggcg ggacacaggct gaggactgtc
1351 cagcccggcg gccctggccc cgggcagagg gactttctcc cggctctcag
1401 gctccttctg ggacaagggg agccacctgg tggctgctca gcaagccttg
1451 ttttgtgaagc agattcctcc ctttatcaac caaatataac tgagtgcttg
1501 ctgctcttct tagaccggag tggtcagccc ccgaagccgg ggaggggggc
1551 tctcccagc ccagagcagc acagccctca gactggaaga tgctttaatt
1601 tttaaaatta aaaaataata cgaactgtgc ttccatttcc cagcttccctc
1651 tgtctagttc tgcc

FIG.30

1 MEARGELGPS RESAGGDLILL ALLARREDLR REIPLCAGCDQHILDRFILK
51 ALDRHWSKC LKSCDCHTPL AERCFSRGES LYCKDDFFKR FGTKCAACQL
101 GIPPTQVRR AQDFVYHLHC FACVVCKRQL ATGDEFYIME DSRLVCKADY
151 ETAKQREAEA TAKRPRTTIT AKQLETLKSA YNTSPKPARH VREQLSSETG
201 LDMRVVQVWF QNRRAKEKRL KKDAGRQRWG QYFRNMKRAR GGSKSDKDSV
251 QEEGQDSDAE VSFTDEPSMA EMGPANGLYG GLGEPAPALG RPSGAPGSFP
301 LEHGGLAGPE QYGELRPSSP YGVPSSPAAL QSLPGPQPLL SSLVYPEAGL
351 GLVPAGPPGG PPMRVLAGN GPSSDLSTGS SGGYPDFPAS PASWLDDEVDH
401 AQF